



Joshua Lederberg

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## Yellow Fever Still Survives In Jungles of Africa, Brazil

**YELLOW FEVER** is a virus disease almost unknown to American medicine. Since a 1905 epidemic on the Gulf Coast that left 554 deaths, vaccination and quarantine of exposed travelers have kept the virus out of this country. The last known importation was an isolated case in 1924 in Houston, Tex.

The name "yellow fever" evokes fond memories of the heroes of medical research. Paul de Kruif's "Microbe Hunters" was one of the inspirational guides of my own generation; I warmly recall reading, as a boy, of Walter Reed and his fellow volunteers, sweating it out in a filthy house that was tainted with yellow fever but screened to keep out the *Aedes* mosquitoes that proved to be the carrier of the contagion.

But the text goes on: "In 1926, there is hardly enough of the (virus) left in the world to put on the points of six pins . . . in a few years it will be as completely extinct as the dinosaurs." Unhappily, this is not so.

**THE CATCH** is the persistence of the virus as an often harmless disease of wild monkeys in the jungles of central Africa and Brazil. It reaches man, and the *Aedes* mosquitoes that abound in his villages and towns, particularly in warmer climates. The mosquito can, nevertheless, flourish in port cities as far

north as New York and Boston.

Jungle yellow fever has, then, remained a constant threat to the urban populations of South America and Africa. An explosive epidemic struck Rio de Janeiro in 1928, and during the following decade it became clear that the eradication of *Aedes* in the towns was the only way to security.

Starting in the 1940's, the Latin American health authorities mounted an aggressive campaign, which has been substantially successful. Yellow fever is still reported to the extent of a dozen cases a year, but these can all be traced to direct contact with the jungle reservoir. Strange to say, the United States is the major remaining stronghold of the *Aedes* mosquito, primarily in the Gulf states and Puerto Rico; most of the Caribbean area has it also. Being isolated from direct access to the jungle, these areas are free of yellow fever and likely to remain so—if we keep up our vigilance over international traffic, if every other vulnerable country (including Cuba and Haiti) does the same and if we are reasonably lucky.

Is this an acceptable level of security to a nation that will spend hundreds of billions for its military defense?

In 1933, the United States joined the Pan-American bloc in the formal program for hemispheric eradication

of *Aedes*. In 1969, in the sweep of the federal economy wave, the program was completely and formally abandoned.

**THERE ARE** reasonable arguments to criticize the program. Its aim of total eradication of the mosquito was undoubtedly too ambitious, and it relied too heavily on rote uses of pesticides like DDT. It should have had a stronger research base—but that, also, was wiped out in the economy move.

One cannot, however, accept the argument offered by one Senator that dropping it was a good thing merely because "not a single case of yellow fever had been reported in the last 40 years." Senegal, in West Africa, might have given similar testimony until 1965, when its epidemic mounted to some 10,000 cases and 1,500 deaths. A flareup of jungle yellow fever in eastern Panama in the same year was probably held to the other side of the Canal Zone mainly by the accident of severe drought.

Barring some unusually bad luck, a penetration of yellow fever into the southern United States could probably be contained to a few hundred deaths by urgent quarantines, vaccination and mosquito suppression measures after the fact. The Asian continent, above all India, is far more vulnerable in view of the abundance of *Aedes* mosquitoes, monkeys and people with marginal hygienic protection.

In the era of the 747 jets, every case of yellow fever anywhere in the world harbors the seeds of genocide.

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